

1. *Osteocella Cliftoni*. Thick, about 11 inches long, tapering at each end. From Western Australia.

2. *Osteocella septentrionalis*. Long, slender, about 64 inches long, attenuated at the base, and very much attenuated and elongated at the other end. Northern Seas? Collected by the Hudson's Bay Company.

Mr. Carter informs me that subsequent examination of this axis with acid "shows that it is similarly composed to that of *Gorgonia*, viz. of kerataceous fibre or substance and calcareous crystalline matter like that of the stem of *Osteocella Cliftoni* and the other Pennatulidæ which it most nearly resembles;" so that my original view as to the nature of this organ seems to be thus confirmed. The elongated northern species was called by a zoologist a "fish's tail," by which was probably meant the tail of a ray.

*Further Remarks on the Relationship of the Limulidæ (Xiphosura) to the Eurypteridæ and to the Trilobita.* By HENRY WOODWARD, Esq., F.G.S.

In this paper the author described the recent investigations, made by Dr. A. S. Packard, Dr. Anton Dohrn, and the Rev. Samuel Lockwood, upon the developmental history of the North-American king crab (*Limulus Polyphemus*), and discussed the conclusions as to the alliances of the Xiphosura and Eurypteridæ, and to the general classification of the Arthropoda, to which the results of these investigations have led Dr. Dohrn and some other continental naturalists. According to this view, the Xiphosura and Eurypteridæ are more nearly related to certain Arachnida (the Scorpions, &c.) than to the Crustacea; and this opinion is further supported by the assertion of Dr. Dohrn, that in *Limulus* only one pair of organs (antennules) receives its nerves from the supracæsophageal ganglion, and that the nature of the under lip in *Limulus* differs from that prevailing among the Crustacea. Dr. Dohrn also recognizes the relationship of the Merostomata to the Trilobites, as shown especially by the development of *Limulus*, and considers that the three forms (*Limulidæ*, *Eurypteridæ*, and *Trilobita*) should be combined in one group under the name of *Gigantostraca*, proposed by Hæckel, and placed beside the Crustacea. The author stated, on the authority of Prof. Owen, that *Limulus* really possesses two pairs of appendages which receive their nerves from the supracæsophageal ganglion, that, according to Dr. Packard, the young *Limulus* passes through a Nauplius-stage while in the egg, that no argument could be founded upon the lower lip, the condition of which varied extremely in the three groups proposed to be removed from the Crustacea; and he maintained that, even from the ultra-Darwinian point of view taken by Dr. Dohrn, the adoption of his proposal would be fatal to the application of the hypothesis of evolution to the class Crustacea.

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